AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An airborne~~Airborne~~ radar device ~~(1)~~ comprising at least two antennas ~~(2,3)~~ and clutter-suppressing means ~~(4)~~, the radar device being arranged to send out, via the antennas ~~(2,3)~~, radar pulses focused in main lobes ~~(5)~~ and the antennas ~~(2,3)~~ are arranged to receive reflected radar pulses, the antennas ~~(2,3)~~ being separated from each other vertically, the radar device ~~(1)~~ comprising means ~~(6)~~ for transforming the received radar pulses into complex video signals in the form of sequences of bins (Rk), the video signals being represented in a first channel (K_1) and a second channel (K_2), characterized in that the clutter-suppressing means ~~(4)~~ is arranged in such a way that the clutter component (e_c) of a certain bin (R_k) in the first channel (K_1) is also found in the second channel (K_2) multiplied by a complex constant ($C(R_k)$), where the complex constant ($C(R_k)$) is the quotient between the complex antenna gain of the second channel (K_2) and of the first channel in the direction of the ground for the current bin (R_k), the clutter-suppressing means ~~(4)~~ being arranged to estimate a complex constant ($\hat{C}(R_k)$) which describes how the signals from the receiver antennas are weighted together separately for each bin (R_k) when the resultant video output signal (Ψ) is formed, the estimated constant ($\hat{C}(R_k)$) being intended to suppress the clutter component (e_c) in the resultant video output signal (Ψ) by subtraction of the second channel (K_2) from the first channel (K_1) multiplied by the estimated constant ($\hat{C}(R_k)$).

2. (Currently Amended) A radar device according to Claim 1, characterized in that the radar device comprises means for representing the video signal from the first antenna ~~(2)~~ in the first channel (K_1) and means for representing the video signal from the second antenna ~~(3)~~ in the second channel (K_2).

3. (Currently Amended) A radar device according to Claim 1, ~~characterized in that the radar device comprises~~further comprising means for summing the signals from pairs of antennas included in the radar system in the second channel (K_2) and means for forming the difference between the signals from pairs of antennas included in the radar system in the first channel (K_1).

4. (Currently Amended) Radar device according to ~~any of the preceding claims~~claim 1, ~~characterized in that~~ wherein the clutter-suppressing means ~~(4)~~ is set up for estimating the complex constant ($\hat{C}$ (R_k)) by utilizing the values from range bins in the vicinity of the current range bin ($\hat{C}$ (R_k)).

5. (Currently Amended) ~~Radar~~ A radar device according to ~~any of the preceding claims~~claim 1, ~~characterized in that~~ wherein the clutter-suppressing means ~~(4)~~ is set up for estimating the complex constant ($\hat{C}$ (R_k)) by adapting a polynomial of degree "m" with coefficients "c_m", wherein the polynomial describes variations over a number of bins centered around the current bin.

6. (currently amended) ~~Radar~~ A radar device according to Claim 5, ~~characterized in that~~ wherein the clutter-suppressing means ~~(4)~~ is set up for determining the coefficients of the polynomial by means of the method of least squares.

7. (Currently Amended) A ~~Radar~~ radar device according to ~~any of the preceding claims~~claim 1, ~~characterized~~ wherein in that the clutter-suppressing means ~~(4)~~ is set up for suppressing clutter without coherence between different pulses sent out.

8. (Currently Amended) A ~~Radar~~ radar device according to ~~any of the preceding claims~~claim 1, ~~characterized in that~~ wherein the antennas ~~(2,3)~~ are rolled by ± 15° maximum relative to the ground plane.

9. (Currently Amended) A ~~Method~~ method for suppressing ground clutter~~,~~ comprising:

~~the joint~~ jointly sending out ~~of~~ a focussed radar pulse in the form of a main lobe ~~(5)~~ from at least two antennas ~~(2, 3)~~ separated from each other vertically, ~~and~~

receiving reflected radar pulses by the antennas ~~(2, 3)~~,

~~comprising the conversion of~~converting the received radar pulses into complex video signals in the form of a number of bins (R_k), the video signals being represented in a first channel (K_1) and a second channel (K_2), ~~characterized in that~~ the method comprising:

[[-]] transmitting a clutter component (e_c) multiplied by a complex constant (C(Rk)) for a certain bin (R_k) ~~is transmitted~~ in the second channel (K_2), where the

complex constant (C(Rk)) is the quotient between the second channel (K_2) and the complex antenna gain of the first channel (K_1) in the direction of the ground for the current bin (R_k),

[[-]] transmitting the clutter component (e_c) for a certain bin (R_k) ~~is transmitted~~ in the first channel (K_1),

[[-]] estimating a complex constant ($\hat{C}$ (Rk)) ~~is estimated~~ by weighting together the signals from the antennas separately for each bin (R_k) when forming a resultant video output signal (Ψ),

[[-]] multiplying the estimated constant ($\hat{C}$ (Rk)) ~~is multiplied~~ by the first channel (K_1),

[[-]] in the resultant video output signal (Ψ), subtracting the second channel (K_2) ~~is subtracted~~ from the first channel (K_1) multiplied by the estimated constant ($\hat{C}$ (Rk)), which gives rise to the clutter component (e_c) being suppressed in the resultant video output signal (Ψ).

10. (Currently Amended) The ~~Method~~ method according to Claim 9, ~~characterized in that~~ wherein the method represents the video signal from the first antenna ~~(2)~~ in the first channel (K_1) and the video signal from the second antenna ~~(3)~~ in the second channel (K_2).

11. (Currently Amended) ~~Method~~ The method according to Claim 9, ~~characterized in that the method comprises~~further comprising ~~the~~ summing of the signals from pairs of

antennas included in the radar system in the second channel (K_2) and subtracting the signals from antenna pairs included in the radar system in the first channel (K_1).

12. (currently amended) ~~Method~~ The method according to ~~any of Claims 9-11~~ Claim 9, ~~characterized in that this~~ wherein the step of estimating ~~estimation of~~ the estimated constant ($\hat{C}$ (Rk)) comprises the following steps:

[[-]] ~~selection of~~ selecting a polynomial of degree M with a number of complex constants (c_m),

[[-]] ~~estimation of~~ estimating the complex constants (c_m) by the method of least squares and the values from a number of bins in the main lobe, which polynomial has the following appearance:

$$\hat{C}(R_k) = \sum_{0}^{M} c_m R_k^m$$

13. (currently amended) ~~Method~~ The method according to ~~any of Claims 9-12~~ Claim 9, ~~characterized in that~~ wherein the method suppresses clutter independently of the coherence between the pulses.

14. (currently amended) ~~Method~~ The method according to ~~any of Claims 9-13~~ Claim 9, ~~characterized in that the method comprises the~~further comprising sending out and receiving of pulses from antennas which are rolled by ± 15° maximum relative to the ground plane.

15. (currently amended) ~~Method~~ The method according to ~~any of Claims 9-14~~ Claim 9, ~~characterized in that the method~~ further ~~comprises~~ comprising ~~the~~ sending out and receiving of pulses from a radar device which is airborne.